

Abstract

A starter assembly for an internal combustion is described. The starter assembly has a starter motor with a rotatable output shaft. An intermediate shaft transmits rotational motion between the output shaft and the crankshaft. A first gear is connected operatively between the output shaft and the intermediate shaft to transmit rotational motion therebetween. A friction-plate clutch is associated with the first gear and is constructed and arranged to operatively decouple the first gear from the intermediate shaft in response to torque shocks from the engine that exceed a predetermined threshold. A second gear is connected operatively between the intermediate shaft and at least a third gear that is operatively connected to the crankshaft. The second gear transmits rotational motion between the intermediate shaft and the third gear. A clutch is associated with the second gear permitting selective decoupling of the second gear from the third gear.